Precision Engineering Division
Internet Based Surface Metrology Algorithm Testing System
2D Analysis Tools & Virtual SRM Database - Beta Version

| Open | Curvature Removal | Filter/Surface Parameters | PSD | Correlation | Database | Print |

fs02nm.smd

—— Primary Profile (▸ 🖫 Download Data)   ——Waviness (▸ 🖫 Download Data)

Roughness (▸ 🖫 Download Data)

Filter

◉ **Gaussian**

Method [Convolution ▾]

Use Gaussian Window

○ **2RC**

Method [Recursive ▾]

Cutoff Setting

Long Cutoff (Lc) [0.8 ▾] m

☑ Short Cutoff (Ls) [2.5 ▾]

[Calculate]

Legend	Primary Profile	Waviness	Roughness
P, W, Ra	0.8039 µm	0.5918 µm	0.26074 µm
P, W, Rq	0.96409 µm	0.61616 µm	0.33454 µm
P, W, Rsk	0.49517	-0.50636	-0.68425
P, W, Rku	2.47118	1.42416	3.88822
P, W, Rdq	0.11712 µm/µm	8.8E-4 µm/µm	0.11548 µm/µm
P, W, Rz	5.35465 µm	1.39886 µm	2.00343 µm
P, W, Rp	2.61829 µm	0.61657 µm	0.72858 µm
P, W, Rv	2.73636 µm	0.7823 µm	1.27485 µm
P, W, Rt	5.35465 µm	1.65249 µm	2.61848 µm
P, W, RSm	1157.42407 µm	******	48.52558 µm

Surface Parameters

Calculation is based on:
○ the evaluation length
◉ all sampling length(s)

☑ Ra   ☑ Rq   ☑ R
☑ Rku   ☑ Rdq   ☑ R
☑ Rp   ☑ Rv   ☑ R
☑ Sm

Height Discrimination [10] % Rz

Spacing Discrimination [1] % sampling length

☐ Calculate Uncertainty

Uz [1.0] % Pq

Ux [2.0] % spacing

[Calculate]
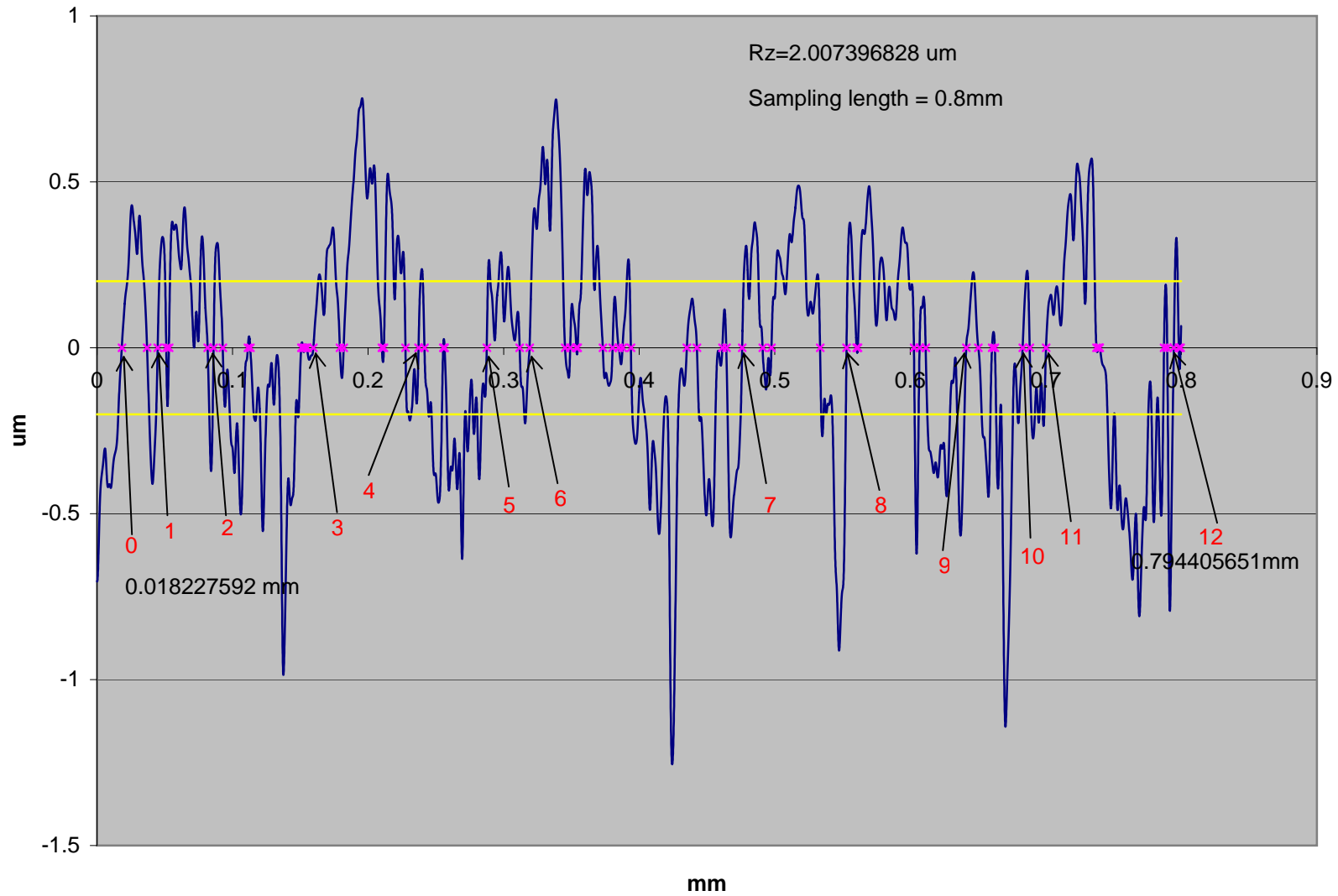
Technical Inquiries: Son H. Bui and Theodore V. Vorburger (Group Leader)
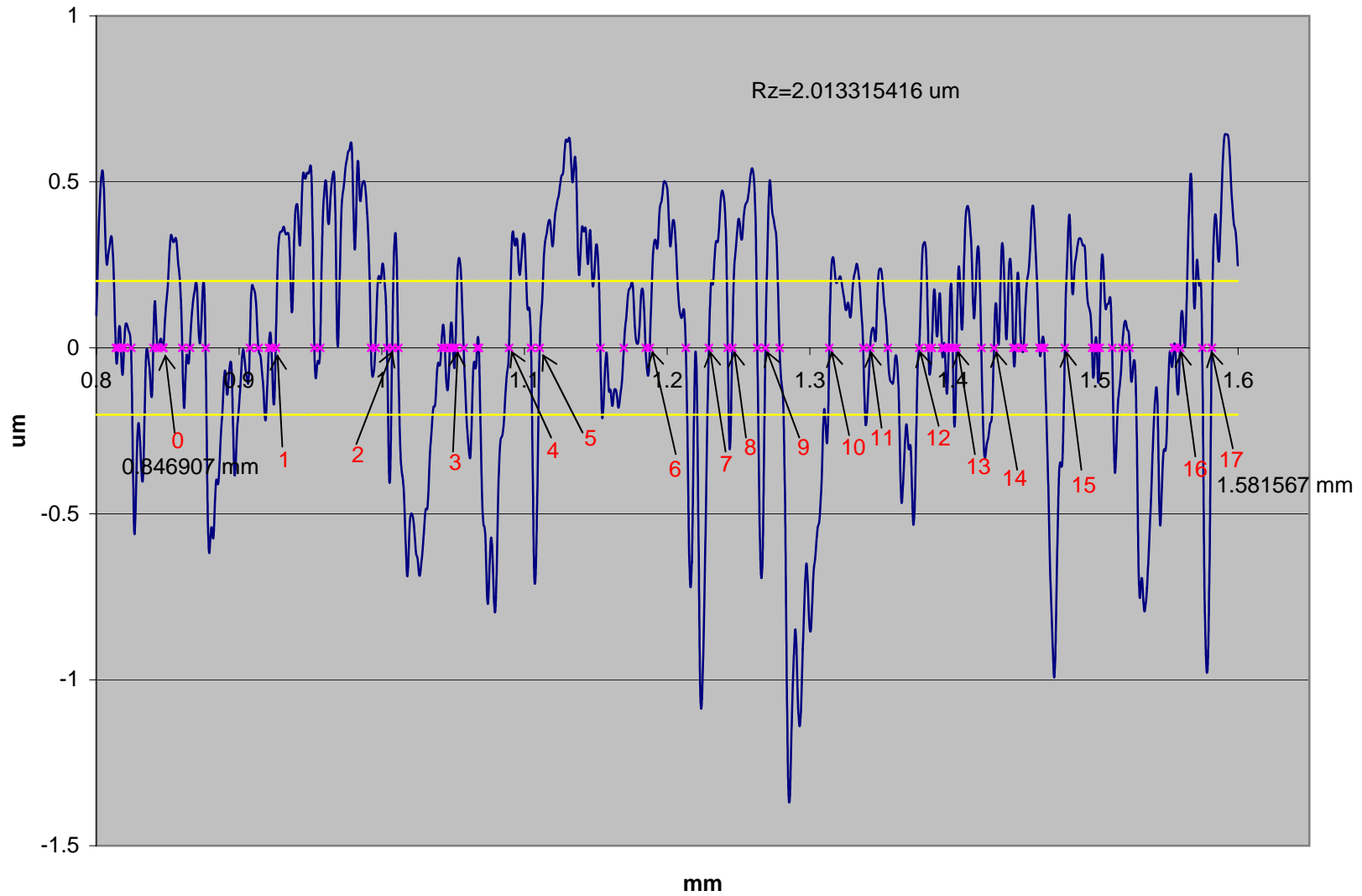Surface and Microform Metrology

Hand Calculations

Rsm Calculation based on ISO 4287 (height discrimination = 10%Rz and spacing discrimination = 8e-4 mm)
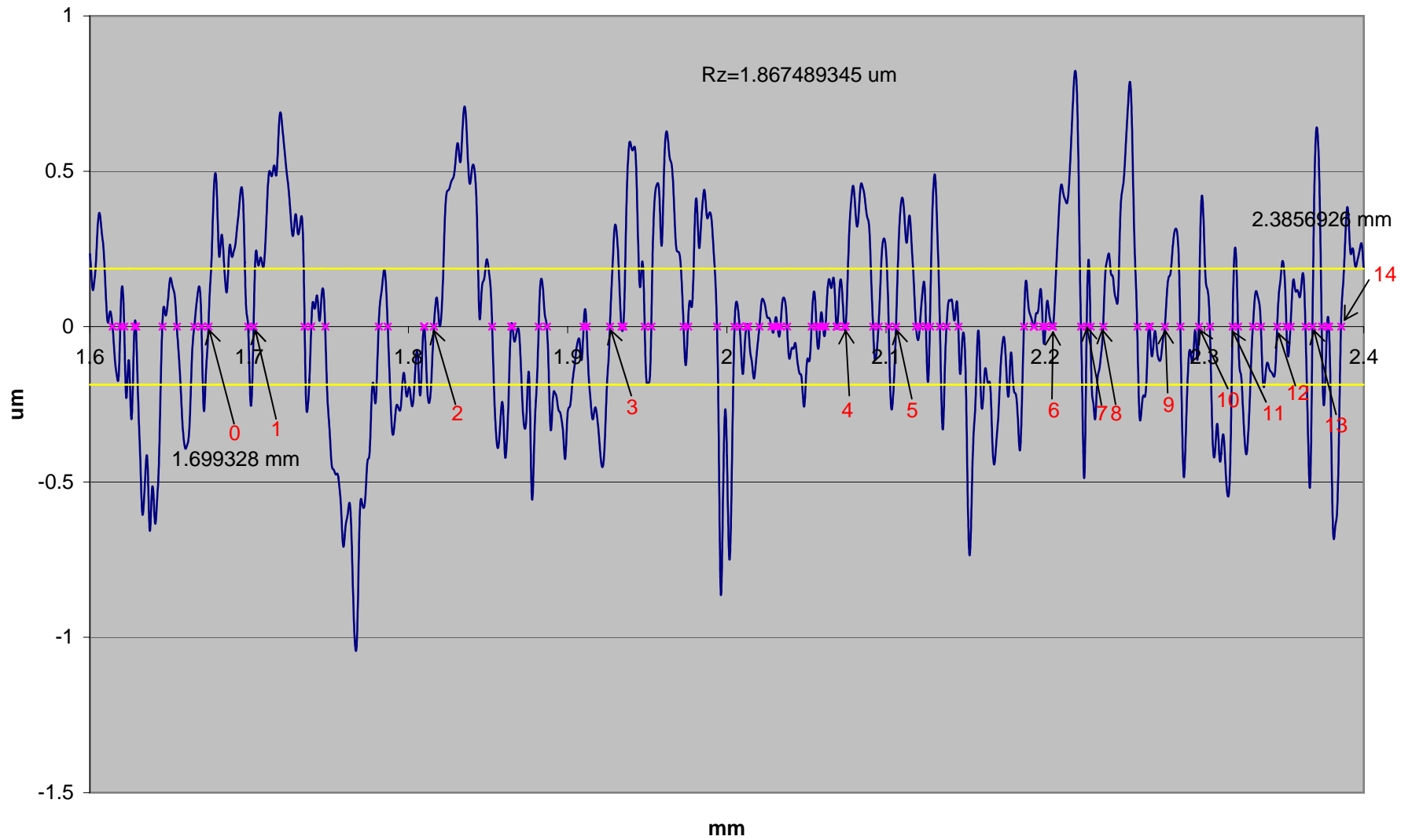

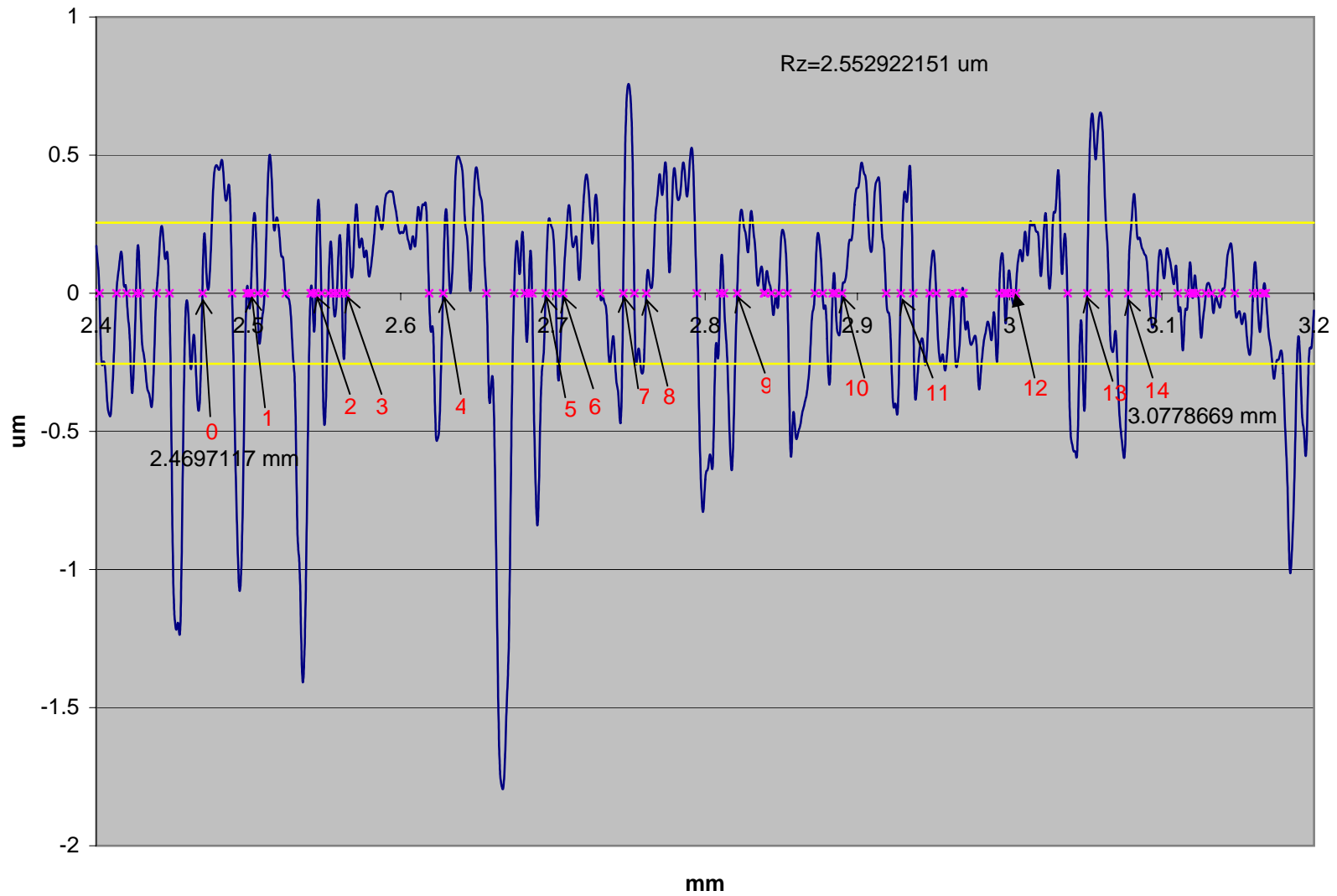| M	Start(mm)	End (mm)	Xsi(mm)	Sm(um)
12	0.018227592	0.794405651	0.776178059	64.68150492
17	0.84690699	1.581567248	0.734660258	43.2153093
14	1.674431613	2.385692623	0.711261009	50.80435781
14	2.469711739	3.077866916	0.608155176	43.43965546
19	3.202817518	3.972071722	0.769254204	40.48700335
			average Sm=	48.52557817 um

First Sampling length

Rz=2.007396828 um

Sampling length = 0.8mm

um

mm

0.018227592 mm

0.794405651mm

0 1 2 3 4 5 6 7 8 9 10 11 12

Second Sampling length

Rz=2.013315416 um

0.846907 mm

1.581567 mm

um

mm

Third Sampling Length

Fourth Sampling length

Rz=2.552922151 um

Fifth Sampling Length